

Amendments to the Claims:

Please amend the claims with the following listing of claims. This listing of claims is intended to replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A method of encapsulating a chemical agent comprising:
 - (a) combining, in an aqueous solvent, particles of a chemical agent suspended in the aqueous solvent and an encapsulation effective amount of a first encapsulating agent;
 - (b) converting the first encapsulating agent to an encapsulating polymer, thereby forming encapsulated particles of the chemical agent; and
 - (c) combining the encapsulated particles of step (b) with a second encapsulating agent.
2. (Original) The method of claim 1, wherein the converting of step (b) is:
 - (i) where the first encapsulating agent is a polymer, changing the pH of the aqueous solvent to precipitate the polymer; or
 - (ii) where the first encapsulating agent comprises water-dispersible oligomers, polymers, or mixtures thereof, forming the precipitated polymer from the encapsulating agent.
3. (Original) The method of claim 2, wherein the converting is according to (ii) and the converting process further comprises heating the combined particles and first encapsulating agent to at least about 40° C.
4. (Previously Presented) The method of claim 3 wherein the encapsulating polymer is selected from the group consisting of: urea formaldehyde resin, melamine formaldehyde resin, phenol formaldehyde resin, resorcinol formaldehyde resin, butylated urea

formaldehyde resin, polyisocyanate, glycoluril formaldehyde resin, and poly(methylolacrylamide).

5. (Currently Amended) A The method of claim 4 encapsulating a chemical agent comprising:

- (a) combining, in an aqueous solvent, particles of a chemical agent suspended in the aqueous solvent and an encapsulation effective amount of a polyisocyanate;
- (b) converting the polyisocyanate to an encapsulating polymer, by heating the combination of (a) to at least about 40° C, forming the precipitated polymer from the polyisocyanate, thereby forming encapsulated particles of the chemical agent; and
- (c) combining the encapsulated particles of step (b) with a second encapsulating agent;

wherein the polyisocyanate comprises residues derived from an alkylene diisocyanate.

6. (Original) The method of claim 5 wherein the alkylene diisocyanate is hexamethylene diisocyanate.

7. (Original) The method of claim 2, wherein the converting is according to (ii) and wherein the first encapsulating agent forms an encapsulating polymer selected from the group consisting of: polyisocyanates, formaldehyde copolymers, a polyacrylamide, and phenoxy resin.

8. (Previously Presented) The method of claim 2, wherein the converting is according to (i) and the method further comprises: reacting the encapsulating polymer with a first curing agent.

9. (Original) The method of claim 8, wherein reacting comprises heating to a temperature of at least 40° C.

10. (Currently Amended) A ~~The~~ method of claim 8 encapsulating a chemical agent comprising:

- (a) combining, in an aqueous solvent, particles of a chemical agent suspended in the aqueous solvent and an encapsulation effective amount of a first encapsulating agent;
- (b) converting the first encapsulating agent to an encapsulating polymer, by changing the pH of the aqueous solvent to precipitate the polymer, then reacting the encapsulating polymer with a first curing agent, thereby forming encapsulated particles of the chemical agent; and
- (c) combining the encapsulated particles of step (b) with a second encapsulating agent;

wherein the first curing agent is an inorganic or organic salt having a multivalent cation.

11. (Original) The method of claim 10 wherein the first curing agent is selected from the group consisting of: calcium chloride, calcium carbonate, magnesium chloride, calcium lignosulfonate, calcium alkylbenzene sulfonate, and calcium stearate.

12. (Original) The method of claim 11 wherein the first curing agent is calcium lignosulfate.

13. (Currently Amended) A ~~The~~ method of claim 9 encapsulating a chemical agent comprising:

- (a) combining, in an aqueous solvent, particles of a chemical agent suspended in the aqueous solvent and an encapsulation effective amount of a first encapsulating agent;
- (b) converting the first encapsulating agent to an encapsulating polymer, by changing the pH of the aqueous solvent to precipitate the polymer, then reacting the encapsulating polymer with a first

curing agent by heating to a temperature of at least about 40° C,
thereby forming encapsulated particles of the chemical agent; and
(c) combining the encapsulated particles of step (b) with a second
encapsulating agent;

wherein the first curing agent is selected from the group consisting of: diamines, silanes, aldehydes, polyhydroxides, epoxides, diepoxides, or water soluble amino resins.

14. (Original) The method of claim 13 wherein the first curing agent is formaldehyde.

15. (Cancelled)

16. (Previously Presented) The method of claim 1, further comprising heating the combination of step (c) to a temperature of at least about 40° C.

17. (Previously Presented) The method of claim 1 wherein the second encapsulating agent forms a second encapsulating polymer selected from the group consisting of: formaldehyde copolymers, polyisocyanates, a polyacrylamide, and phenoxy resin.

18. (Previously Presented) The method of claim 17 wherein the second encapsulating polymer is selected from the group consisting of: urea formaldehyde resin, melamine formaldehyde resin, polyisocyanates, phenol formaldehyde resin, resorcinol formaldehyde resin, butylated urea formaldehyde resin, glycoluril formaldehyde resin, and methylolacrylamide.

19. (Currently Amended) A The method of claim 18 encapsulating a chemical agent comprising:

(a) combining, in an aqueous solvent, particles of a chemical agent
suspended in the aqueous solvent and an encapsulation effective
amount of a first encapsulating agent;

- (b) converting the first encapsulating agent to an encapsulating polymer,
thereby forming encapsulated particles of the chemical agent; and
(c) combining the encapsulated particles of step (b) with polyisocyanates
that form a second encapsulating polymer;

wherein the polyisocyanate comprises residues derived from an alkylene diisocyanate.

20. (Original) The method of claim 19 wherein the alkylene diisocyanate is hexamethylene diisocyanate.

21. (Original) The method of claim 1, wherein the particles have a size ranging from about 1 μ m to about 100 μ m.

22. (Original) The method of claim 1, wherein the viscosity of the suspension does not significantly increase during the converting of step (b).

23. (Original) The method of claim 1 wherein the converting is effected by lowering the pH of the aqueous solvent.

24. (Currently Amended) A ~~The~~ method of claim 23 encapsulating a chemical agent comprising:

- (a) combining, in an aqueous solvent, particles of a chemical agent
suspended in the aqueous solvent and an encapsulation effective
amount of a first encapsulating agent;
(b) converting the first encapsulating agent to an encapsulating polymer by
lowering the pH of the aqueous solvent, thereby forming
encapsulated particles of the chemical agent; and
(c) combining the encapsulated particles of step (b) with a second
encapsulating agent;

wherein the first encapsulating agent is a polymer selected from the group consisting of: polyanhydrides, polyanhydride acids, polyanhydride salts, polyanhydride esters, styrene

maleic anhydride copolymers and hydrolysis and neutralization products thereof, polysaccharides, acrylic acid polymers, polyacrylamides, acrylic polymers, hydrophobically-modified polyacrylic acids, and salts of alkyl naphthalene sulfonate polymers.

25. (Original) The method of claim 24 wherein the first encapsulating agent is selected from the group consisting of: maleic anhydride copolymer disodium salt, styrene maleic anhydride copolymer amide ammonium salt, styrene maleic anhydride copolymer ammonium salt, poly(methyl vinyl ether-*co*-maleic anhydride), N-methylolacrylamide, and poly(vinyl chloride-*co*-vinyl acetate-*co*-hydroxyl acrylate).

26. (Original) The method of claim 23 wherein the pH is lowered by adding an acid selected from the group consisting of: hydrochloric acid, hydrobromic acid, hydroiodic acid, sulfuric acid, perchloric acid, phosphoric acid, acetic acid, trifluoroacetic acid, citric acid, and 2,2,2-trifluoroethanol.

27. (Currently Amended) A The method of claim 26 encapsulating a chemical agent comprising:

- (a) combining, in an aqueous solvent, particles of a chemical agent suspended in the aqueous solvent and an encapsulation effective amount of a first encapsulating agent;
- (b) converting the first encapsulating agent to an encapsulating polymer by lowering the pH of the aqueous solvent by adding an acid, thereby forming encapsulated particles of the chemical agent; and
- (c) combining the encapsulated particles of step (b) with a second encapsulating agent;

wherein the acid is acetic acid.

28. (Original) The method of claim 1 wherein the chemical agent is a bioactive agent.

29. (Original) The method of claim 28 wherein the bioactive agent is a pesticide.

30. (Currently Amended) The method of encapsulating a chemical agent according to claim 2 wherein the converting is according to (ii) and the change in pH is a decrease in pH, effected by addition of acid, to less than about 6 and further comprising adding a curing agent, which is a calcium salt, and heating the resulting mixture to a temperature above about 40° C.

31. (Currently Amended) A The method of claim 30 encapsulating a chemical agent comprising:

- (a) combining, in an aqueous solvent, particles of a chemical agent suspended in the aqueous solvent and an encapsulation effective amount of a first encapsulating agent;
- (b) converting the first encapsulating agent to an encapsulating polymer, by decreasing the pH of the aqueous solvent by addition of acid to less than about 6 to precipitate the polymer, then reacting the encapsulating polymer with calcium salt by heating to a temperature of at least about 40° C; and
- (c) combining the encapsulated particles of step (b) with a second encapsulating agent;

further comprising the steps of combining the product of steps (a), (b) and (c) ~~claim 30~~ with a water-dispersible polyisocyanate based on hexamethylene diisocyanate and heating the resulting combination to a temperature above about 40° C.